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Improving Your Car's Fuel Economy

Higher gas prices mean people are spending more money to keep their cars moving down the road. While there is no trick that will double the miles per gallon a car gets, motorists can increase their car's fuel efficiency and performance through proper maintenance and the use of good driving habits. When you add in the fact that using less gasoline and conserving energy is also good for the environment, there are plenty of good reasons drivers should look to improve their automobile's fuel economy.

Proper Maintenance

A properly operating car will drive more efficiently than one that does not receive regular check-ups. It can be economically wise to spend some money on automobile maintenance so you can save money every time you fill up at the pump. There are several basic things you can do to your car to help improve its fuel economy.

- Keep the tires properly inflated. If the tires are under-inflated your car will use more fuel to run. Government studies indicate cars with under-inflated tires can improve their fuel economy by up to three percent if they maintain the appropriate air level for their vehicle. Also, do not put extra-wide tires on your car, as they have the same effect on fuel economy as under-inflated tires.
- Keep your car properly tuned. Make sure your spark plugs are in good condition, that they are the right type and are properly gapped. Fixing a car that is noticeably out of tune or has failed an emissions test can improve its gas mileage by an average of four percent, though results vary based on the kind of repair and how well it is done.
- Keep the air filter clean. Your car's air filter keeps impurities from damaging the inside of your engine, so replacing a dirty air filter will not only save gas, it will protect your engine. Replacing a clogged air filter can improve your car's gas mileage by as much as 10 percent.
- Change the oil. Change the car's engine oil per the manufacturer's recommendations, and always use the viscosity of oil specified for your kind of vehicle.
- Change the fuel and oil filters. Clean oil and fuel filters improve the performance of your automobile. Replace them as often as the manufacturer recommends.
- Watch the "Check Engine" lights. Many new cars have "Check Engine" lights on the dashboard to warn drivers that something is wrong with their car, yet many people ignore these lights when they come on, thinking that if the car is still running that there is not anything wrong. But there could be problems with the car that, while not obvious to you, are obvious to your car's sensors. Fixing these problems can greatly influence your car's fuel efficiency. For example, just by replacing a faulty oxygen sensor you can potentially improve the car's fuel efficiency by 40 percent.
- Buy gasoline that is 87 octane, unless a higher octane is specifically indicated for your car. Most cars run very well on 87 octane fuel, and buying premium grade fuel does not offer such a big advantage over regular gas to warrant the extra cost.

- Purchase gasoline in the morning. Temperatures are usually cooler in the morning hours, and the cooler gasoline is the denser it is. This means there will be slightly more gasoline in a gallon of gas when it is cool than when the temperature is warm. As the temperature rises the gallon of gas you bought in the morning will expand slightly. The amount of extra fuel is you receive is insignificant, but it is still slightly more than what you get at warmer temperatures.
- Avoid spilling gasoline when you fill your car up. The car's engine can not run on gasoline that is on the ground.
- Monitor your fuel economy. A sudden drop in the number of miles per gallon your vehicle is getting may indicate your car needs maintenance or a tune-up.
- Observe Sensible Driving Techniques
- How you drive your car can save as much gasoline as keeping your car properly maintained.
- Drive at a steady pace, and avoid speeding and excessive braking. Your car will get its best mileage when it is driven smoothly. Driving in a stop-start-stop-start fashion only wastes gasoline. Driving at speeds over 60 miles per hour also will cause your mileage to decrease.
- Use your transmission and gears properly. A manual transmission can provide five to 10 percent better fuel economy than an automatic when driving in the city. If your vehicle has a manual transmission, shift gears as soon as the engine can run smoothly in the next gear. With an automatic transmission, lifting your foot slightly off the accelerator will make the transmission shift sooner. Use overdrive gears to decrease the car's engine speed, reduce engine wear and save gas.
- Try to time the traffic lights. Many traffic lights are timed so that somebody driving at a specific speed (often the speed limit) will make it from one light to the next without having to brake under optimal driving conditions. This moderate driving uses less gas than a car that is racing from stoplight to stoplight, constantly stopping and accelerating.
- Use cruise control. Speeding up and slowing down uses more fuel than maintaining a constant speed. Use the cruise control while driving on the highway to save gas.
- Avoid excessive idling. An urban myth exists that says cars use less gas when idling than they do to stop and start, so many people believe they are saving gas by letting their car run for a few minutes on the driveway or in a parking lot. The truth is a car uses the same amount of gas when starting as it takes to have the car idling for approximately 30 seconds. If you want to save gas, and you plan on having your car in park for more than 30 seconds, stopping and restarting the engine is the economical thing to do.
- Remove excess weight from the car. Hauling extra cargo lowers your fuel efficiency. The lighter your vehicle is the less energy it takes to move it. It has been estimated that lowering the weight in your car by 100 pounds will add one to two percent to the fuel economy of your vehicle.
- Avoid excessive use of the air conditioning. Air conditioning can decrease the fuel economy of your vehicle by 15 to 20 percent. Use the vents unless temperatures become too uncomfortable.
- Avoid creating drag. Driving with the windows open, tying things to the antenna and strapping luggage to the roof makes vehicles less aerodynamic and creates drag. The more drag there is on your car the less fuel-efficient your vehicle will be.
- Consolidate your trips. Doing several errands at once can save you gas if you plot out direct routes between stops and avoid retracing your tracks.
- Share rides. Take advantage of carpooling and ride sharing programs offered through your place of work or local communities. If you split the driving responsibilities and only drive your car to work every other day, you will use half as much gas commuting as you did driving alone.
- Other commuting tips include:
    - Try telecommuting one day each week if your company allows it.
    - If you own more than one vehicle, be sure to drive the one with the best fuel efficiency to work.
    - Try to stagger your work hours so you avoid peak commuter rush hours. You will spend less time sitting in traffic wasting fuel.
    - Check into the availability of public transportation.

Buy a More Fuel-efficient Vehicle

People who spend a lot of time driving may want to buy a more fuel-efficient car, or one that uses cheaper hybrid technology to provide its energy needs.

For instance, if you normally drive an SUV that gets 15 miles per gallon, and you were to have the option of driving an economy car that gets 45 miles per gallon, you would in theory cut your gasoline purchases by two thirds. This little bit of savings each time at the pump can add up. Using the cars in this example, and factoring in a driver who travels an average of 15,000 miles each year and gasoline priced at $3 per gallon, a person could save approximately $2000 each year just on fuel costs by driving a smaller, more fuel-efficient car.

To save money on fuel a good rule of thumb to use is to drive the most fuel-efficient car that meets your needs. If you have a family of five, for example, buy the most efficient vehicle that comfortably seats all of you. If you are single you can save money and natural resources by trading in a large, uneconomical vehicle for a smaller, more environmentally and fuel friendly method of transportation.

There are also several automobile choices to consider that operate on alternative fuels:

- Flex-fuel vehicles. These cars and trucks have one engine and fuel system that can operate on either gasoline or an alcohol-based fuel (like ethanol or methanol). The engine can run on a combination of the fuels, so they can be mixed in the tank without harming the engine or vehicle performance.
- Electric vehicles. Electric cars and trucks rely on strong batteries and electric motors for power and propulsion. They lose power rather quickly and have to be recharged using special power adapters, limiting the range electric cars have on the road. On the plus side, electric cars are quiet and do not cause pollution.
- Bi-fuel vehicles. Bi-fuel vehicles have two fuel systems, one that normally operates on gasoline and another that operates on a second fuel, often Compressed Natural Gas (CNG) or Liquefied Petroleum Gas (LPG). The operator can switch back and forth between the two different fuel systems depending upon which fuel type is readily available in a given location.

Some information and statistics on this page were gathered from the United States Department of Energy's Web site on fuel economy. The site is located at www.fueleconomy.gov.